

REMARKS

This response is in reply to the non-final Office Action dated February 26, 2010. Claims 1-17 and 19-22 are pending in this application. Claim 17 is withdrawn. Claims 1-16 and 19-22 are subject to examination.

Reconsideration of the application is respectfully requested in view of the following remarks.

Rejection Under 35 U.S.C. § 112, Second Paragraph

Claims 1-16 and 19-22 stand rejected as indefinite on the grounds that (1) the meaning of the term “participation” is unknown and (2) the term “quaternary sp^2 -hybridized nitrogen atom” implies that four atoms are attached to a nitrogen, not three atoms, one of which is doubly bonded. Applicants respectfully traverse.

Regarding (1), while the term “participation” is not explicitly defined in the present specification, the intended meaning of this term is clear from the specification, when read in its entirety. An object of the present invention is to provide an improved process for preparing ionic compounds suitable as ionic liquids, but which are substantially free of undesirable halide impurities. Page 2, lines 30-34, of the present specification. This object is achieved by reacting an amine compound with a dialkyl sulfate such that the counteranion of the resulting quaternary sp^2 -hybridized nitrogen-containing compound is a sulfate (SO_4^{2-}) anion. Page 2, lines 36-39, of the present specification. The sulfate anion is generated by reaction (*i.e.*, participation) of *both* of the alkyl groups of a given molecule of dialkyl sulfate. Each of the alkyl groups removed from the dialkyl sulfate ends up on a separate molecule of the amine compound, thus forming two molecules of the quaternary sp^2 -hybridized nitrogen-containing compound. *See e.g.*, Examples 1-3 in the present specification. The result is two molecules of the quaternary sp^2 -hybridized nitrogen-containing compound (1+ charge each) generated for every sulfate anion (2- charge each) generated. In view of the foregoing, Applicants submit that the skilled artisan would be clear as to the meaning of the term “participation” recited in the present claims.

Regarding (2), Applicants submit that the skilled artisan would readily understand the term “quaternary sp^2 -hybridized nitrogen atom,” as recited in the present claims, to include nitrogen atoms bound to three atoms, one of which is doubly bonded to the nitrogen atom. As evidence of this,

Applicants file concurrently herewith Section 3.3 of Ullman's Encyclopedia of Industrial Chemistry, which pertains to "*Quaternary* Pyridinium Salts." Such salts, which are characterized as "quaternary," contain nitrogen atoms bound to three atoms, one of which is doubly bonded to the nitrogen atom. In view of the foregoing, Applicants submit that the skilled artisan would be clear that the term "quaternary sp^2 -hybridized nitrogen atom" recited in the present claims includes nitrogen atoms bound to three atoms, one of which is doubly bonded to the nitrogen atom.

Applicants respectfully request withdrawal of this rejection.

In view of the foregoing remarks, Applicants submit that the pending application is in condition for allowance.

Payment in the amount of \$130.00 to cover the fee required by 37 C.F.R. § 1.17(a)(1) for a one-month extension of time is submitted concurrently herewith. Should any other fees be required in connection with this amendment, the Director is hereby authorized to charge any fees due or outstanding, including any extension fees, or credit any overpayment, to Deposit Account No. 03-2775, under Order No. 13111-00046-US, from which the undersigned is authorized to draw.

Dated: June 28, 2010

Respectfully submitted,

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